

of the container adjacent to the open end of the hollow fiber bundle of each element, and vi) a non-permeated fluid discharge outlet located as opposed to the outer surface of the other element and extending through the container wall in communication with the space and the outside of the container wall, and

further wherein the container comprises a cylindrical pressure vessel, the centerline of the discharge outlet being substantially proximal to one end of the cylindrical pressure vessel whereby any space downstream of said outlet is sufficiently small to allow purging of suspended materials, thereby minimizing pressure loss in the permselective membrane module.

REMARKS

Favorable reconsideration of the subject application is respectfully requested in view of the comments below.

Claims 1 and 2 stand rejected under 35 U.S.C. § 112, first paragraph for lack of enablement of extending the permeate exit "through the container wall." Claims 1 and 2 also stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,160,042 to Bikson *et al.* ("Bikson").

The Applicants have carefully reviewed the September 11, 2001 Office Action, and respectfully submit the foregoing amendments and following remarks in response thereto. New claims 3 and 4 have been added to further recite that the permeate exits pass through the container *end* walls adjacent to their respective open hollow tube bundle ends. No new matter has been introduced. Claims 1 and 2 have not been amended in view of the Applicants' belief that these claims are adequately enabled, as discussed in the Remarks, below.

In view of the foregoing amendments and the following remarks, the Applicants respectfully request withdrawal of the pending rejections and allowance of claims 1-4.

1. The § 112, First Paragraph Rejection Should Be Withdrawn.

The Applicants respectfully traverse the rejection of claims under 35 U.S.C. § 112, first paragraph, on the grounds that the claims are adequately enabled.

The claims originally recited that the permeate exit "extend[s] through the container wall." The claims were rejected under § 112, first paragraph, on the grounds that "while being enabling for 'permeate outlet extending through the end plates (10, 10')" the

specification allegedly “does not reasonably provide enablement for extending the permeate exist through the container wall (2).” September 11, 2001 Office Action at 2.

The Applicants respectfully submit that the “exit through the container wall” is adequately enabled. The invention summary expressly recites “a permeate-liquid outlet facing the open end of the hollow fiber bundle of each element *and extending through the container wall.*” Application at 5:19-22. Further, Figures 1 and 2 show sufficient space in support plates 9, 9' to, for example, turn outlets 11, 11' radially outward through the side of support plates 9, 9' *and thence through container wall 2.*

The Applicants respectfully submit that by focusing solely on the end plate exits in the specific embodiments described in the Detailed Description of the Preferred Embodiments, the Examiner has inappropriately sought to limit the present invention *solely* to the *preferred* embodiments, notwithstanding the enabling disclosure expressly and inherently provided in the present specification and drawings. Accordingly, the Applicants respectfully request the pending § 112, first paragraph, rejection of the claims be reconsidered and withdrawn.

Notwithstanding the foregoing remarks, the Applicants wish to thank the Examiner for drawing their attention to the opportunity to more specifically recite the embodiments of the present invention expressly described in the Detailed Description of the Preferred Embodiments. Accordingly, the Applicants have added claims 3 and 4 to specifically recite permeate exits “extending through the end wall of the container adjacent to the open end of the hollow fiber bundle of each element.” Allowance of new claims 3 and 4, in addition to claims 1 and 2, is respectfully requested.

2. Claim 1 and 2 Are Patentable Under § 103(a) Over Bikson.

The Applicants respectfully traverse the rejection of claims 1 and 2 as unpatentable under § 103(a) over Bikson on the grounds that Bikson does not teach or suggest the features of the present invention for which it is cited.

The citation to Bikson revolves around the presence of a port 2 in the side of the Bikson apparatus housing, and its description in this reference’s specification. Port 2 is shown in all five Bikson patent figures to be located at the center of the side wall of the Bikson apparatus housing. The Examiner cites Bikson at 5:28-62 as supporting the assertion that port 2 need “not necessarily [be] positioned” at the center of the side wall of the housing, that it would have been obvious to place the port 2 “at any location though the housing (4)

length, depending on the annular space width, and avoiding build up of pressure in the annular space,” and that while port 2 is shown in the figures at the center of housing 4, it “does not exclude its location at a location ‘substantially proximal to the end of the vessel,’ and in that particular situation solid removal at the end of the vessel can be expected to be removed.” September 11, 2001 Office Action at 3-4.

The Applicants respectfully submit that contrary to the conclusions drawn by the Examiner, the cited portion of Bikson does not teach or suggest the present invention. At lines 29-34 of the cited portion, Bikson does nothing more than to confirm that port 2 need not be *precisely* located at the center of the pressure shell 4. While Bikson does indicate that port 2 may be moved off-center, it also notes in the same breath that this displacement is *limited* by the need to ensure that if the port is moved, the annular space is sufficiently large to preclude pressure build up in the annular region, and further expressly notes that “preferably, however, first port 2 is *essentially at the center* [of the pressure shell].” Bikson at 8:29-34. This passage thus teaches *away* from the present invention’s location of the non-permeate outlet “substantially proximal” to one end of the housing; indeed, the cited passage suggests that if tube 2 were to be located too close to the end of the housing, either the annular space pressure would be undesirably high, or the annular space would have to be so large as to significantly decrease the volume available for hollow fibers and thereby significantly decrease the efficiency of the apparatus. There is nothing in Bikson that would provide a motivation to one of ordinary skill to move port 2 to “substantially proximal” to the end of the housing.

Moreover, there is nothing in Bikson that teaches or suggests locating port 2 substantially proximal to the housing end in order to achieve the present invention’s advantage of easy purging of deposited suspended materials. The Examiner has asserted that Bikson “does not exclude” port 2’s location at the end of the housing, and then asserts that if port 2 was located in this manner, then solids removal can be “expected.” The Applicants respectfully submit that the mere fact that a reference “does not exclude” something is not a substitute for the reference teaching or suggesting the features of the invention being examined for § 103(a) purposes. Thus, the mere fact that Bikson does not expressly teach that an end location for port 2 is not desirable cannot be taken as grounds for asserting that one of ordinary skill would have read Bikson as suggesting an end location for tube 2, let alone that locating port 2 substantially proximal to the end of the housing would enhance

solids removal. In fact, *there is not a single mention of suspended materials removal in the entire text of the Bikson reference.* The Applicants submit that the conclusion that solids removal would be enhanced by locating port 2 at the end of the housing is not founded in any way on Bikson. The Applicants further submit that this argument is based on a flawed assumption -- that Bikson even suggests locating tube 2 substantially proximal to the end of the housing. As noted above, this is not the case: Bikson focuses solely on locating port 2 and sizing the annular space to avoid pressure build up in the annular space, and teaches that a central location is preferred, without any consideration as to ease of suspended materials removal from the housing.

For the foregoing reasons, the Applicants submit that Bikson would not have taught or suggested the present invention as recited in pending claims 1 and 2. The Applicants therefore respectfully request the § 103(a) rejection of claims 1-2 be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all of the presently pending claims are allowable. The Applicants therefore earnestly solicit an early and favorable action on the merits and issuance of a Notice of Allowance for claims 1-4.

The Examiner is invited to contact the undersigned at (202) 220-4232 discuss any matter concerning this application.

The Office is authorized to charge any underpayment or credit any overpayment to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,
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